A1 end

generate holograms. Since only the inside of an element hologram is exposed, the other beams are discarded as unnecessary beams. After all, this increases the total exposure time and requires a costly, high-power laser, causing unfavorable effects.

Please replace the paragraph beginning on Page 4, line 13, with the following new paragraph:

A2

Figs. 3A and 3B are a detail view showing a reference optical system in the holographic stereogram exposure apparatus.

Please replace the paragraph beginning on Page 4, line 19, with the following new paragraph:

Sub B1 A3

Figs. 6A and 6B are a partial diagrammatic view showing an optical path in the superposed projection optical system.

Please replace the paragraph beginning on Page 4, line 23, with the following new paragraph:

A4

Figs. 8A and 8B are a detail view showing a beam-condensing projection optical system constituting the object beam optical system.

Please replace the paragraph beginning on Page 5, line 14, with the following new paragraph:

A5

This embodiment provides a system for generating a so-called one-step holographic stereogram. This means that a hologram recording medium records an interference pattern of object beams and reference beams and is used as a holographic stereogram as

is. As shown in FIG. 1, the system comprises a data processing section 1, a control computer 2, and a holographic stereogram exposure apparatus 3. The data processing section 1 processes image data to be recorded. The control computer 2 controls the entire system. The holographic stereogram exposure apparatus 3 uses an optical system for holographic stereogram exposure to expose 3-D image information to a hologram recording medium.

A5 cncl

Please replace the paragraph beginning on Page 7, line 21, and continuing on page 8 with the following new paragraph:

The reference beam L4 is split by the beam splitter 34 and is reflected on the mirror 43. For interference with the object beam L3 on the hologram exposure face (hologram recording medium 42), the reference beam optical system 44 changes the reference beam L4 to a specified element hologram size and projects it on the hologram recording medium 42. Fig. 3A and 3B show an example of the reference beam optical system 44. FIG. 3A is a top view and FIG. 3B is a side view thereof. The following describes an example of generating a holographic stereogram comprising an element hologram of 0.2 mm wide (d) and 30 mm long (L). The reference beam L4 entering a cylindrical lens 51 is spread only in the horizontal direction and then enters a collimating cylindrical lens 52 to be formed to a parallel beam. As will be described later in detail, the reference beam L4 as a parallel beam passes through a slit 53 (D x L = 5d x L = 5 x 0.2 mm x 30 mm). The slit 53 is telecentrically projected on the

A4

A6 end

surface of the hologram recording medium 42 by means of a first cylindrical lens 54 and a second cylindrical lens 55 with the magnification of -1, producing a specified reference beam.

Please replace the paragraph beginning on page 8, line 9, with the following new paragraph:

A7

The following describes the object beam optical system 35. It comprises an illuminating optical system 36 (described later), a spatial light modulation section 38, a superposed projection optical system 39, and a beam-condensing projection optical system 41. The superposed projection optical system 39 superposes and projects the beam passing through the spatial light modulation section 38. With respect to a projected image from the superposed projection optical system 39, the beam-condensing projection optical system 41 condenses a beam in the parallax direction and forms an image in the non-parallax direction on the surface of the hologram recording medium 42.

Please replace the paragraph beginning on page 9, line 15, and continuing on page 10, with the following new paragraph:

A8

First, the parallax direction (side view) of the superposed projection optical system 39 is explained with reference to FIG. 5. After passing through the illuminating optical system 36, the laser beam evenly illuminates the face of the liquid crystal 38 in FIG. 5. The beam passing through the liquid crystal 38 reaches a lenticular lens 65 divided into five portions and then passes through the optical path as shown in this figure. This

optical path is explained with reference to FIG. 6A to FIG. 6C. FIG. 6A shows the entire optical path. FIG.6B shows an enlarged detail of the center of the optical path. FIG. 6C shows an enlarged detail of the bottom thereof. Each of five divisions of the superposed projection optical system 39 forms an image 40 to the right of a lens 66. Further, it is understood that images for the five divisions on the liquid crystal 38 are superposed on the same positions. When the liquid crystal 38 is divided into five portions, this optical system needs to have a projection magnification of 5 so that the same size is maintained between the image 40 for the liquid crystal 38 and the original image.

A8 end

Please replace the paragraph beginning on Page 10, line 15 and continuing on page 11 with the following new paragraph:

A9

The following describes the beam-condensing projection optical system 41 with reference to FIG. 8A and FIG.8B. FIG.8 A shows a side view. FIG. 8B shows a top view. This optical system condenses a beam for the liquid crystal's image 40 in the parallax direction (A) and forms this image in the non-parallax direction (B) on the surface of the hologram recording medium 42. This effect makes a holographic stereogram to be visible in 3-D. As shown in FIG. 8A and FIG. 8B, the beam-condensing projection optical system 41 uses a first lens 71 to project the liquid crystal's image 40 for passing through a slit 72 and uses a second lens 73 to let the beam enter a beam-condensing cylindrical lens 74. The beam-condensing cylindrical lens 74 condenses the image's beam in the parallax direction for entering

the hologram recording medium 42 and forms the image in the non-parallax direction. The basic configuration of this optical system is the same as that of a conventional beam-condensing projection optical system except that the present invention uses a different value for the width of the slit 72. Conventionally, when an element hologram has a width of 0.2 mm, the slit width becomes 0.2 x 80/8.4 = 1.905 mm as seen from the figure. This is the slit width in the parallax direction, namely within the side view in FIG. 8A, providing no restrictions on the slit width within the top view.

A9 ord

Please replace the paragraph beginning on page 12, line 5, with the following new paragraph:

In this example, the hologram recording medium 42 is a hologram film wound around a film cartridge 75. A recording medium feed mechanism (not shown) pulls the hologram recording medium 42 out of the film cartridge 75 and feeds it. The recording medium feed mechanism causes a vibration attenuation wait time, prolonging the time for generating holographic stereograms. By contrast, the holographic stereogram exposure apparatus in the above-mentioned holographic stereogram generation system can record a parallax image sequence comprising five element holograms at a time. It is possible to decrease the number of vibration attenuation wait situations. In total, the time for generating holographic stereograms can be shortened.

A10